

CANDIDATE AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: Arabis georgiana Harper

COMMON NAME: Georgia rockcress

LEAD REGION: 4

INFORMATION CURRENT AS OF: December 18, 2000

STATUS/ACTION (Check all that apply):

☐ New candidate

☒ Continuing candidate

☒ Non-petitioned

☐ Petitioned - Date petition received: ____

☐ 90-day positive - FR date: ____

☐ 12-month warranted but precluded - FR date: ____

☐ Is the petition requesting a reclassification of a listed species?

☐ Listing priority change

 Former LP: ____

 New LP: ____

☐ Candidate removal: Former LP: ____ (Check only one reason)

☐ A - Taxon more abundant or widespread than previously believed or not subject to a degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

☐ F - Range is no longer a U.S. territory.

☐ M - Taxon mistakenly included in past notice of review.

☐ N - Taxon may not meet the Act's definition of "species."

☐ X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Plant - Brassicaceae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Alabama, Georgia

CURRENT STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Alabama, Georgia

LEAD REGION CONTACT (Name, phone number): Lee Andrews, 404/679-7217

LEAD FIELD OFFICE CONTACT (Office, name, phone number): Jackson, Mississippi Field Office, Cary Norquist, 601/321-1128

BIOLOGICAL INFORMATION (Describe habitat, historic vs. current range, historic vs. current population estimates (# populations, #individuals/population), etc.):

Arabis georgiana was first collected in 1841 by Boykin from the vicinity of the Chattahoochee River in Georgia. Several other collections of this species were made in the late 1800's. However, Harper was the first to recognize its distinctiveness, after seeing it in fruit in 1901 on the bank of the Chattahoochee River in Stewart County, Georgia. Harper later described it as a distinct species in 1903 (Allison 1995).

Arabis georgiana grows in a variety of dry situations, including shallow soil accumulations on rocky bluffs, ecotones of gently sloping rock outcrops, and in sandy loam along eroding riverbanks. It is occasionally found in adjacent mesic woods but it will not persist in heavily shaded conditions. This species is adapted to high or moderately high light intensities and occurs on soils which are circumneutral to slightly basic (Allison 1995, Allison in litt. 1999, Patrick et al. 1995).

Populations of Arabis georgiana are known from the Gulf Coastal Plain, Piedmont, and Ridge and Valley physiographic provinces of Alabama and Georgia. Extensive searches have been conducted for this species throughout these provinces in Alabama and Georgia for over 5 years (Allison 1995, Allison in litt. 1999). Arabis georgiana is rare throughout its range. Allison (1995) surveyed 205 sites over nine counties in Georgia and discovered only four new populations (a 2 percent success rate). Currently a total of 19 populations are known from four counties in Alabama (Bibb, Elmore, Russell, Wilcox Counties) and six counties in Georgia (Clay, Chattahoochee, Floyd, Gordon, Harris, Muscogee Counties). A historical location from Stewart County, Georgia, has not been relocated despite repeated searches (Allison 1995, Allison in litt. 1999).

During surveys, Allison (pers. comm. 1999) found that populations of this species typically have a limited number of individuals restricted over a small area. Of the nine known populations in Georgia, six of them consist of only 3 to 25 plants; the remaining three populations have 51 to 63 individuals (Allison 1995). The larger populations are primarily in the Ridge and Valley physiographic region of Alabama, particularly in Bibb County. Allison (in litt. 1999) documented this species at 18 sites (representing 7 populations) in Bibb County. Four of these seven populations have 5 to 20 plants and one population each consists of 50, 83, and 180 plants. The remaining three Alabama populations, in the Coastal Plain region of Alabama, have population sizes of 12, 24, and 51 plants (Allison in litt. 1999).

THREATS (Describe threats in terms of the five factors in section 4 of the ESA providing specific, substantive information. **If this is a removal of a species from candidate status or a change in listing priority, explain reasons for change**):

- A. The present or threatened destruction, modification, or curtailment of its habitat or range. One population of Arabis georgiana in Floyd County, Georgia, appears to be a surviving remnant of a once larger population. The primary habitat at this locality has been

extensively quarried (Allison 1995). It is likely that other populations on rocky bluffs, in the Piedmont and Ridge and Valley provinces, were destroyed by quarrying or impoundments. Rock bluffs along rivers have also been favored sites for hydropower dam construction. The construction of a dam in Harris County, Georgia, destroyed a portion of suitable habitat for a population of Arabis georgiana and the current population there may also represent a remnant of a once much larger population (Allison 1995).

Habitat degradation, more than its outright destruction, is the most serious threat to this species' continued existence. Most of the Coastal Plain rivers surveyed by Allison (pers. comm. 1999) were considered unsuitable for Arabis georgiana because the bank had been disturbed to the point where there was no remaining vegetative buffer. Disturbance, associated with timbering, road building, and grazing, has created favorable conditions for the invasion of exotic weeds in this species' habitat (see Factor E).

- B. Overutilization for commercial, recreational, scientific, or educational purposes. Overutilization is not known to pose a threat to this species.
- C. Disease or predation. Allison (1995) observed plants damaged from grazing at one site (Allison 1995). However, disease and predation are not thought to be a significant threat to this species.
- D. The inadequacy of existing regulatory mechanisms. Arabis georgiana is listed as Threatened by the State of Georgia (Patrick et al. 1995). This State listing provides legal standing under the Georgia Wildflower Preservation Act of 1973. Georgia law prohibits the removal of this species from public land and regulates the taking and sale of plants from private land. The greater problem of habitat destruction and degradation is not addressed by this law. Arabis georgiana is considered endangered in Alabama but that state has no protective legislation for plants.

Only three populations occur on public land - two populations on the Fort Benning Military Reservation in Chattahoochee County, Georgia, and Russell County, Alabama, respectively, and one population on the Jackson Park National Historic Site. Whether or not these populations are being adequately protected on these sites is unknown.

- E. Other natural or manmade factors affecting its continued existence. The primary threat to Arabis georgiana is the ongoing degradation of its habitat. Disturbance of most of the known sites has provided opportunities for the invasion of aggressive exotic weeds, especially Japanese honeysuckle (Lonicera japonica). Arabis georgiana is not a strong competitor. It is usually found in areas where growth of other plants is restrained due to the shallowness of the soils or the pioneer status of the site (eroding riverbanks) (Allison 1995). However, exotics are effectively invading these riverbank sites and the long-term survival of the five riverbank populations in the Coastal Plain province is questionable (Allison 1995). This species is only able to avoid competition with exotics where the soil is the limited (rocky bluffs).

Competition from exotics, enhanced by adjacent land use changes, likely contributed to the loss of the population at the type locality in Stewart County, Georgia (Allison 1995). Four additional populations are currently being negatively affected by competition with exotics. Japanese honeysuckle was observed actually growing on individual plants of Arabis georgiana at three sites. At a fourth area, plants growing in a mat of Nepalese browntop (Eulalia viminea) have declined in number from 17 individuals to a single plant (Allison 1995). Five other populations are imminently threatened by the nearby presence of exotics (Allison 1995, Allison in litt. 1999). Thus, 47 percent of the known populations (9 of 19) are currently threatened by exotic species.

Populations of Arabis georgiana are healthiest in areas receiving full or partial sunlight. Those populations occurring in forested areas will decline as the forest canopy closes. Allison (in litt. 1999) attributed the decline of a population in Bibb County, Alabama, to canopy closure. In addition, the small number of individuals at the majority of the sites makes these populations vulnerable to local extinctions from stochastic events.

BRIEF SUMMARY OF REASONS FOR REMOVAL OR LISTING PRIORITY CHANGE:

FOR RECYCLED PETITIONS:

- a. Is listing still warranted? ____
- b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? ____
- c. Is a proposal to list the species as threatened or endangered in preparation? ____
- d. If the answer to c. above is no, provide an explanation of why the action is still precluded.

LAND OWNERSHIP (Estimate proportion Federal/state/local government/private, identify non-private owners): Three sites are located on federal land (two sites on the Fort Benning Military Reservation and one on Jackson Park National Historical Site); all others are on private land, including two on property owned by The Nature Conservancy.

PRELISTING (Describe status of conservation agreements or other conservation activities): The Service funded a status survey on this species throughout its range. The Georgia survey was completed in 1995; Alabama surveys are ongoing.

REFERENCES (Identify primary sources of information (e.g., status reports, petitions, journal publications, unpublished data from species experts) using formal citation format):

Allison, J.R. 1995. Status survey of Arabis georgiana Harper (Georgia rockcress) in Georgia. Unpublished report for the U.S. Fish and Wildlife Service. Jackson, MS. 18 pp. + appendices.

Harper, R.M. 1903. A new Arabis from Georgia. *Torreyana* 3:87-88.

- Harper, R.M. 1904. A new station for Arabis georgiana. Torreyana 44:24-25.
- Harper, R.M. 1906. Notes on the distribution of some Alabama plants. Bull. Torr. Bot. Club 33:532.
- Hopkins, M. 1937. Arabis in eastern and central North America. Rhodora 39:63-98, 106-148, 155-186, plates 457-458.
- Patrick, T.S., J.R. Allison, and G.A. Krakow. 1995. Protected Plants of Georgia. Georgia Department of Natural Resources, Wildlife Resources Division, Social Circle. 246 pp.

LISTING PRIORITY (place * after number)

THREAT			
Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	5
		Subspecies/population	6
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11*
		Subspecies/population	12

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes to the candidate list, including listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all additions of species to the candidate list, annual retentions of candidates, removal of candidates, and listing priority changes.

Approve: _____
Regional Director, Fish and Wildlife Service Date _____

Concur: _____
Director, Fish and Wildlife Service Date _____

Do not concur: _____
Director, Fish and Wildlife Service Date _____

Director's Remarks: _____

Date of annual review: December 18, 2000

Conducted by: Cary Norquist - Jackson, Mississippi FO

Changes from October 25, 1999 CNOR(check one) Yes X No

Approval: _____
Regional Director Dated _____

Comments: _____

(rev. 6/00)